



Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

September 14, 2012

Sandy Wackett
DEQ LABORATORY
602 N. Fifth St.
Baton Rouge, LA 70802

RE: Project 20143788
Project ID: TEXAS BRINE GRAND BAYOU

Dear Sandy Wackett:

Enclosed are the analytical results for sample(s) received by the laboratory on September 10, 2012. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in cursive script that reads "Cindy Olavesen".

Cindy Olavesen
cindy.olavesen@pacelabs.com



REPORT OF LABORATORY ANALYSIS

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Cover No Results 9/14/2012 16:33

Project: 20143788

Client: DEQ LABORATORY

Project ID: TEXAS BRINE GRAND BAYOU

Washington Department of Ecology C2078
Oregon Environmental Laboratory Accreditation - LA200001
U.S. Dept. of Agriculture Foreign Soil Import P330-10-00119
Pennsylvania Dept. of Env Protection (NELAC) 68-04202
Texas Commission on Env. Quality (NELAC) T104704405-09-TX
Kansas Department of Health and Environment (NELAC) E-10266
Florida Department of Health (NELAC) E87595
Oklahoma Department of Environmental Quality - 2010-139
Illinois Environmental Protection Agency - 0025721
California Env. Lab Accreditation Program Branch - 11277CA
Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006





Sample Cross Reference

Pace Analytical Services, Inc.
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(504) 469-0333

Project: 20143788

Client: DEQ LABORATORY

Project ID: TEXAS BRINE GRAND BAYOU

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
043-120908-01-0	201019226	Other	08-Sep-12 11:22	10-Sep-12 10:00



Project Narrative

Pace Analytical Services, Inc.
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Project: 20143788

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

All holding times were met.

Blanks:

All blank results were below reporting limits.

Laboratory Control Samples:

All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

MS or MSD recoveries outside of QC limits are qualified in the Report of Quality Control section.

Surrogates:

Surrogate recoveries outside of QC limits are qualified in the surrogate results section.

Regulatory, Permit or Client Specified Limits:

Results were found that exceeded regulatory, permit or client specified limits:

Method EPA 8015 Mod Ext sample 201019226 Diesel Range Organics (C10-28) result 481000mg/kg is greater than 65mg/kg lim

Method EPA 8015 Mod Ext sample 201019226 Oil Range Organics (>C28-40) result 150000mg/kg is greater than 180mg/kg limi



QC Cross Reference

Pace Analytical Services, Inc.
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Project: 20143788

Analytical Method	Batch	Sample used for QC
EPA 8015 Mod Ext	191926	Project sample 043-120908-01-0
EPA 8015/8021	191820	Batch sample from another client

Narrative1 9/14/2012 16:35:00

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.

Client sample means a sample from the same client but in a different project was used.

Batch sample means a sample from a different client was used.



Sample Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
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(504) 469-0333

Client: DEQ LABORATORY

Client ID: 043-120908-01-0

Project: 20143788

Project ID: TEXAS BRINE GRAND BAYOU

Site: None

Lab ID: 201019226

Matrix: Other

% Moisture: n/a

Description: None

Prep Level: Soil

Batch: 191926

Method: EPA 8015 Mod Ext

Collected: 08-Sep-12

Received: 10-Sep-12

8015 TPH Extractables Soil

Prepared: 11-Sep-12

Units: mg/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
none	Diesel Range Organics (C10-28)	50	481000	D1,P12	4950	65.0	13-Sep-12 10:21 SNP1
none	Oil Range Organics (>C28-40)	50	150000	D1,P12	24800	180.	13-Sep-12 10:21 SNP1

2 compound(s) reported



Sample Results

Pace Analytical Services, Inc.
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(504) 469-0333

Client: DEQ LABORATORY

Client ID: 043-120908-01-0

Project: 20143788

Project ID: TEXAS BRINE GRAND BAYOU

Site: None

Lab ID: 201019226

Matrix: Other

% Moisture: n/a

Description: None

Prep Level: Soil

Batch: 191820

Method: EPA 8015/8021

Collected: 08-Sep-12

Received: 10-Sep-12

8015/8021 Med Soil

Prepared: 11-Sep-12

Units: mg/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
none	Gasoline Range Organics(C6-10)	1	136.		12.5		12-Sep-12 13:36 DHR1
1 compound(s) reported							



Sample Results

Pace Analytical Services, Inc.
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(504) 469-0333

Client: DEQ LABORATORY

Client ID: 043-120908-01-0 MS 1

Project: 20143788

Project ID: TEXAS BRINE GRAND BAYOU

Site: None

Lab ID: 201019226 MS 1

Matrix: Other

% Moisture: n/a

Description: None

Prep Level: Soil

Batch: 191926

Method: EPA 8015 Mod Ext

TPH Extractables Soil, MS

Collected: 08-Sep-12

Received: 10-Sep-12

Prepared: 11-Sep-12

Units: mg/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
none	Diesel Range Organics (C10-28)	10	467000	D1,E,P	1000		13-Sep-12 03:00 SNP1
1 compound(s) reported							



Sample Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
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(504) 469-0333

Client: DEQ LABORATORY

Client ID: 043-120908-01-0 MSD 1

Project: 20143788

Project ID: TEXAS BRINE GRAND BAYOU

Site: None

Lab ID: 201019226 MSD 1

Matrix: Other

% Moisture: n/a

Description: None

Prep Level: Soil

Batch: 191926

Method: EPA 8015 Mod Ext

TPH Extractables Soil, MS

Collected: 08-Sep-12

Received: 10-Sep-12

Prepared: 11-Sep-12

Units: mg/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
none	Diesel Range Organics (C10-28)	10	547000	D1,E,P	980.		13-Sep-12 03:28 SNP1
1 compound(s) reported							



Surrogate Recovery

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
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(504) 469-0333

Batch: 191926

Project: 20143788

Method: Soil GC Semivolatile Organics

Lab ID	Sample ID	Qu	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
201019226	043-120908-01-0		0 D	0 D						
201019388	043-120908-01-0 MS 1	G1	3070 D	1370 D						
201019389	043-120908-01-0 MSD 1	G1	3420 D	1430 D						
201019386	191926 BLANK 1		119	100						
201019387	191926 LCS 1		97	82						
QC limits:			16-147	16-127						
Sur 1: n-Pentacosane (S)										
Sur 2: o-Terphenyl (S)										

* denotes surrogate recovery outside of QC limits.

D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion.



Surrogate Recovery

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
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Batch: 191820

Project: 20143788

Method: Soil GC Volatile Organics

Lab ID	Sample ID	Qu	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
201019226	043-120908-01-0		109							
201019134	191820 BLANK 1		108							
201019135	191820 LCS 1		107							
201019136	JJSJ-SB-01-18-19 MS 1		70							
201019137	JJSJ-SB-01-18-19 MSD 1		81							
QC limits:			60-129							
Sur 1: 4-Bromofluorobenzene (S)										

* denotes surrogate recovery outside of QC limits.

D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion.



Quality Control

Pace Analytical Services, Inc.
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Batch: 191926 **Project:** 20143788 **LCS:** 201019387 12-Sep-12 17:19
Method: Soil GC Semivolatile Organics **MS:** 201019388 13-Sep-12 3:00
Units: mg/kg **MSD:** 201019389 13-Sep-12 3:28
Original for MS: Client Sample 201019226

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits		Max	Qu
											LCS	MS/MSD	RPD	
Diesel Range Organics (C10-2 1 compound(s) reported	400.	313.	78	400.	481000	467000	547000	0 *	16940 *	16	36-129	10-167	20	E,P12,



Quality Control

Pace Analytical Services, Inc.
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Batch: 191820 **Project:** 20143788 **LCS:** 201019135 11-Sep-12 12:35
Method: Soil GC Volatile Organics **MS:** 201019136 11-Sep-12 14:08
Units: mg/kg **MSD:** 201019137 11-Sep-12 14:35
Original for MS: Batch Sample 201018631

Parameter Name	LCS	LCS	LCS	MS	Sample	MS	MSD	MS	MSD	RPD	QC Limits		Max	Qu
	Spike	Found	%Rec	Spike	Found	Found	Found	%Rec	%Rec		LCS	MS/MSD	RPD	
Gasoline Range Organics(C6- 1 compound(s) reported	25.0	23.9	96	25.0	1.24	14.7	18.2	54	68	21 *	63-139	17-150	20	



Blank Results

Pace Analytical Services, Inc.
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Blank ID: 191926 BLANK 1

Project: 20143788

Lab ID: 201019386

Prep Level: Soil

Batch: 191926

Method: Soil GC Semivolatile Organics

Prepared: 11-Sep-12

						Units: <u>mg/kg</u>		
CAS Numb	Analyte	Dilution	Result	Qu	Reporting Limit		Analysis	
none	Diesel Range Organics (C10-28)	1	ND		100.		12-Sep-12 16:52	SNP1
none	Oil Range Organics (>C28-40)	1	ND		500.		12-Sep-12 16:52	SNP1
2 compound(s) reported								

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Protocol Blank 9/14/2012 16:35:0
Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



Blank Results

Pace Analytical Services, Inc.
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Blank ID: 191820 BLANK 1

Project: 20143788

Lab ID: 201019134

Prep Level: Soil

Batch: 191820

Method: Soil GC Volatile Organics

Prepared: 11-Sep-12

						Units: <u>mg/kg</u>		
CAS Numb	Analyte	Dilution	Result	Qu	Reporting Limit		Analysis	
none	Gasoline Range Organics(C6-10)	1	1.42	J	2.50		11-Sep-12 12:07 DHR1	
1 compound(s) reported								

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Protocol Blank 9/14/2012 16:35:0
Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



Definitions/Qualifiers

Pace Analytical Services, Inc.
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Project: 20143788

Value	Description
D1	The analysis was performed at a dilution due to the high analyte concentration.
G1	Interferences are present which caused poor surrogate recovery.
P12	A reduced sample aliquot was prepared because of the observed nature of the sample matrix.
Q3	The matrix spike recoveries are poor due to the presence of this analyte in the sample at a concentration greater than 4 times the spiked amount. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample.
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
LCS	Laboratory Control Sample.
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.
E	This analyte concentration is above the linear calibrated range of the analysis.

Chains of Custody

INTERNAL CHAIN OF CUSTODY

EPN/SDG #:

20143788

Client:

DEQ

Analytical Fraction:

Opref, VOA

PACE ID	CLIENT ID	PACE ID	CLIENT ID
201419226	043-120908-01-0		

DATE	RELINQUISHED BY	RECEIVED BY	COMMENTS
9-16-12	Printed Name: J Miller Signature: <i>J Miller</i>	Printed Name: Santolme Signature: <i>Santolme</i>	
	Printed Name: Signature:	Printed Name: Signature:	
	Printed Name: Signature:	Printed Name: Signature:	
	Printed Name: Signature:	Printed Name: Signature:	
	Printed Name: Signature:	Printed Name: Signature:	
	Printed Name: Signature:	Printed Name: Signature:	
	Printed Name: Signature:	Printed Name: Signature:	
	Printed Name: Signature:	Printed Name: Signature:	
	Printed Name: Signature:	Printed Name: Signature:	
	Printed Name: Signature:	Printed Name: Signature:	

INTERNAL CHAIN OF CUSTODY

EPN/SDG #:

20143788

Client:

DEQ

Analytical Fraction:

Opref, UGA

PACE ID	CLIENT ID	PACE ID	CLIENT ID
201419226	043-120908-01-0		

DATE	RELINQUISHED BY	RECEIVED BY	COMMENTS
9-16-12	Printed Name: J Miller Signature: <i>J Miller</i>	Printed Name: Richard P. [unclear] Signature: <i>[unclear]</i>	
	Printed Name: Signature:	Printed Name: Signature:	
	Printed Name: Signature:	Printed Name: Signature:	
	Printed Name: Signature:	Printed Name: Signature:	
	Printed Name: Signature:	Printed Name: Signature:	
	Printed Name: Signature:	Printed Name: Signature:	
	Printed Name: Signature:	Printed Name: Signature:	
	Printed Name: Signature:	Printed Name: Signature:	
	Printed Name: Signature:	Printed Name: Signature:	
	Printed Name: Signature:	Printed Name: Signature:	



1000 Riverbend Blvd., Suite F
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Sample Container

2 20143788 20-DEQ LAB 3



Courier: ☒ Pace Courier ☐ Hackbarth ☐ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: ☒ Yes ☐ No

Thermometer Used: ☐ Therm Fisher IR 1
☐ Therm Fisher IR 2
☐ Therm Fisher IR 4

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and initials of person examining contents: 9-10-12 W

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	1
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2
Chain of Custody Complete:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7
Correct Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10
All containers received within manufacture's precautionary and/or expiration dates.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11
All containers needing preservation have been checked (except VOA; coliform, & O&G).	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	17
Pace Trip Blank Lot # (if purchased):	<u>N/A</u>	18

Client Notification/ Resolution:

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____